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# Institutional Food Distribution Systems: Bringing Students, Farmers, and Food Service to the Table

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Many small- and mid-scale farmers have turned to alternative markets, such as farmers markets and community supported agriculture programs, in order to remain financially viable. However, these markets have limited capacity to serve as a viable strategy for a large group of farmers, since they are relatively small in size and easily saturated. If the traditional commodity market is limited for small- and mid-scale growers, and direct markets are becoming saturated, is there anywhere else that these growers can sell their produce and make a profit? For many, a potentially promising market outlet is the institutional foods sector, such as that represented by schools, hospitals, and colleges.

The institutional market in the United States is large: in 2008, \$33.9 billion was spent in the United States for food at schools and colleges, representing 5.9 percent of all expenditures for food away from home (USDA-ERS 2009). Another \$47.4 billion was spent at other types of institutions, such as hospitals, corporate cafeterias, prisons, and airlines.

There is already nationwide interest among schools, colleges, hospitals, and other institutions in purchasing fresh, locally and sustainably produced food. As of October 28, 2009, 141 colleges were listed on the website [www.farmtocollege.org](http://www.farmtocollege.org) as operating farm-to-college programs. The "program profiles" section of this website indicates that annual expenditures for local farm products among 116 colleges totaled \$19.3 million and averaged \$166,426 per institution.

Despite the potential of increasing demand for

locally grown produce in institutional markets, significant barriers have kept most producers from entering these markets. Strohbehn and Gregoire (2002) found the following factors to be the greatest obstacles among 66 institutions in Iowa: year-round availability, local and state regulations, working with multiple vendors, obtaining adequate supply, reliable food quantity, and on-time delivery. A national survey of colleges (Murray 2005) indicated price, delivery frequency, working with multiple vendors, product consistency, availability, and volume to be barriers to buying locally grown produce. Nevertheless, demand is growing as an increasing number of farmers seek ways to surmount these barriers.

## Methodology

Our research addressed two hypotheses: there is untapped potential for profit in these markets for small- and medium-scale farmers, and institutional markets can increase the use of environmentally sound production practices. We focused on food service programs at colleges and universities (referred to hereafter as "colleges"), although to a limited degree we also included teaching hospitals and prisons in our research. We conducted three research activities to examine these hypotheses:

- *A national survey of college students' demand for environmentally sustainable food from small and medium-sized farms.* This mail survey of 2,000 college and university students identified interest in and willingness to pay for food produced in an environmentally sustainable manner from small- and mid-scale farms. It also compared the level of student interest in different criteria, as well as desired products.

- *A survey of institutional food service buyers at California colleges, universities, and teaching hospitals.* This telephone survey of 99 food service buyers identified current purchasing practices, sourcing criteria, procurement practices, distribution infrastructure, administrative costs and require-

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ments, packaging and other product preferences, and willingness to pay for food produced in an environmentally sustainable manner from small- and medium-sized farms.

•*In-depth interviews with California producers and downstream entities currently participating in the farm-to-institution programs.* Scoping interviews were conducted with distributors, brokers, farm organizations, non-governmental organizations and food service buyers involved in farm-to-institution programs in California and across the country to outline various segments of the distribution network. A second set of interviews was conducted to gather specific information about how transactions were working and to identify the challenges and opportunities found in existing farm-to-institution programs in 2006. Usable data were collected from 17 farmers, 15 distributors, and 16 food service buyers.

We report our findings below by describing the current situation in the college food service market, and examining the potential for small- and mid-scale farmers in the college food service market and the primary barriers that they face. We conclude with a discussion regarding the changes needed for small- and mid-scale farmers to tap the potential in collegiate food service market.

### Current Situation in the College Food Service Market

The survey of food service managers of colleges in California indicated that 28 percent already had

a buying program for locally grown produce and 22 percent were developing such a program. The average food service budget among colleges with such a program was \$3.5 million, and ranged from \$200,000 to \$12 million. Produce purchases averaged \$527,000, and ranged from \$50,000 to \$1.5 million. On average, 28 percent of produce purchases were locally grown; this proportion ranged from three percent to 70 percent.

The number of produce suppliers used by institutions according to the status of their buying program for local produce is displayed in Table 1. Clearly, institutions with local buying programs tend to purchase from more sources. Many use a nontraditional source, such as the Growers Collaborative (a local distributor sourcing exclusively from local farms), campus farm, farmers markets, or growers, for their locally grown produce.

Food service managers were asked to rate the importance of various production attributes using a seven-point Likert scale, where one meant "not at all important." As shown in Table 2, their attitudes differed according to their local buying program status.

### Potential for Small- and Mid-Scale Farmers in the College Food Service Market

The nationwide survey of students indicated strong potential demand in the college food service market for small- and mid-scale farmers. Students rated it very important that their college provided food that is sustainably produced (41 percent), locally

**Table 1. Number of Produce Distributors By Local Buying Program Status.**

Number of produce distributors	Local buying program status		
	No program	Developing program	Have program
1	25 (51%)	11 (50%)	3 (11%)
2	18 (37%)	10 (45%)	15 (54%)
3 or more	6 (12%)	1 (5%)	10 (36%)

grown (30 percent), certified organic (25 percent), and produced by small farmers (18 percent).

These responses indicate that both sustainably produced and locally grown have emerged as being more desirable by students than certified organic.

During the in-depth interviews about half of the food service buyers provided upper limits for their local purchases. They thought they could increase their purchases from local growers from an average of 21 percent to an average of 38 percent of their produce budgets. This is almost a doubling of local purchases. This is a lower bound because it assumes that the buyers who did not provide data would not increase their purchases at all.

From the farmers' perspective, a very limited proportion of their revenues in 2006—approximately 2.5 percent—was attributable to farm-to-institution accounts, although the range was very large (from less than one percent to 55 percent). This shows there is a lot of room for potential growth in the farm-to-college market.

Distribution is an important factor in expanding the farm-to-college market. As noted above, colleges with locally grown produce programs tend to purchase their produce from multiple suppliers. It

is clear from Figure 1 that broadliners and regional produce distributors are the primary produce suppliers. Direct purchases and non-profit allied distributors are currently only a small part of the overall distribution infrastructure. There is substantial potential for growth through these venues.

### Barriers to Locally Grown Produce Programs

Premium pricing is a barrier to locally grown produce programs. Colleges with locally grown produce programs paid a price premium for the locally grown produce that averaged 12.7 percent and ranged from 0 to 35 percent. When food service managers participated in a pricing exercise, those with a locally grown produce program were willing to pay an average 47 percent price premium for the locally grown produce, compared to a price premium of 24 percent and 12 percent, respectively, by those who were developing a locally grown produce grown and those who had no locally grown produce programs.

Another barrier to farm-to-college programs is "business as usual" attitudes. Food service managers rated the importance of various criteria for their

**Table 2. Average Ratings of Importance of Price and Production Attributes By Local Buying Program Status.**

Attribute	No program	Developing program	Have program	F-Statistic <sup>b</sup> (d.f. = 2)
Inexpensively priced	6.15 (1.10)	5.68 (1.00)	5.07 (1.76)	4.27
Certified organic	2.30 (1.68)	4.32 (1.53)	4.03 (1.95)	9.70
Sustainably produced	2.83 (2.12)	4.95 (1.18)	5.88 (1.40)	22.10
Locally grown	3.67 (2.15)	5.00 (1.25)	6.04 (1.45)	13.40
Grown by small- or mid-size producer	2.44 (1.83)	3.89 (2.16)	5.27 (1.76)	14.74

<sup>a</sup>Scheffe test results indicated that the differences in ratings between institutions without local buying programs and those developing local buying programs were significant at the 0.05 level. None of the differences between institutions developing local buying programs and those with local buying programs were significant at the 0.05 level.

<sup>b</sup>F-statistic is significant for each attribute at the 0.05 level.

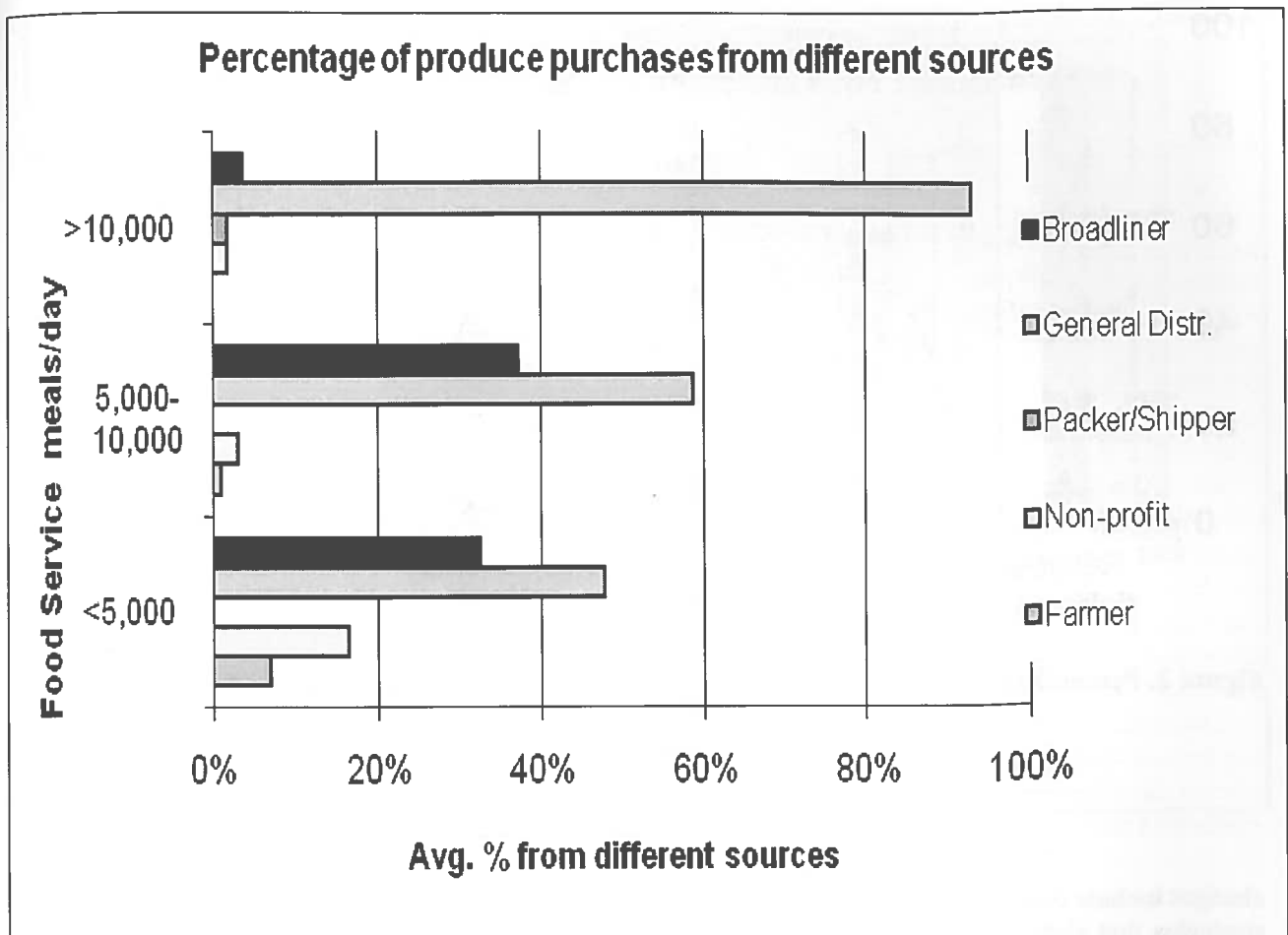


Figure 1. Percentage of Produce Purchases from Different Sources.

suppliers using a seven-point Likert scale, with 1 meaning “not at all important.” Their responses were separated according to their local buying status; they indicated that reliable deliveries are very important to all three groups (Figure 2). However, year-round supply, stable prices, and availability from their primary vendor were all much more important to food service managers who did not have a locally grown produce program. These variables can be considered as proxies for transaction costs, as described in detail in Hardesty (2008). Food service managers without local buying programs are unwilling to incur the transaction costs associated with local buying programs; they prefer the convenience of their current produce buying program.

When food service buyers responded to an open-ended question about challenges to the farm-

to-college model, their responses corroborated the responses reported in Figure 2 above. The delivery system featured as the most prominent challenge (Figure 3). This includes timeliness of delivery, consistency and reliability of the orders. Three challenges were identified equally as the second most important: “limited selection/seasonality,” “transaction and negotiation costs,” and “education and eating habits.”

### Tapping the Potential

Based on the preceding discussion regarding barriers to locally grown produce buying programs, one of the major adjustments required to tap the potential in the farm-to-college market involves improvements in the distribution system. Needed

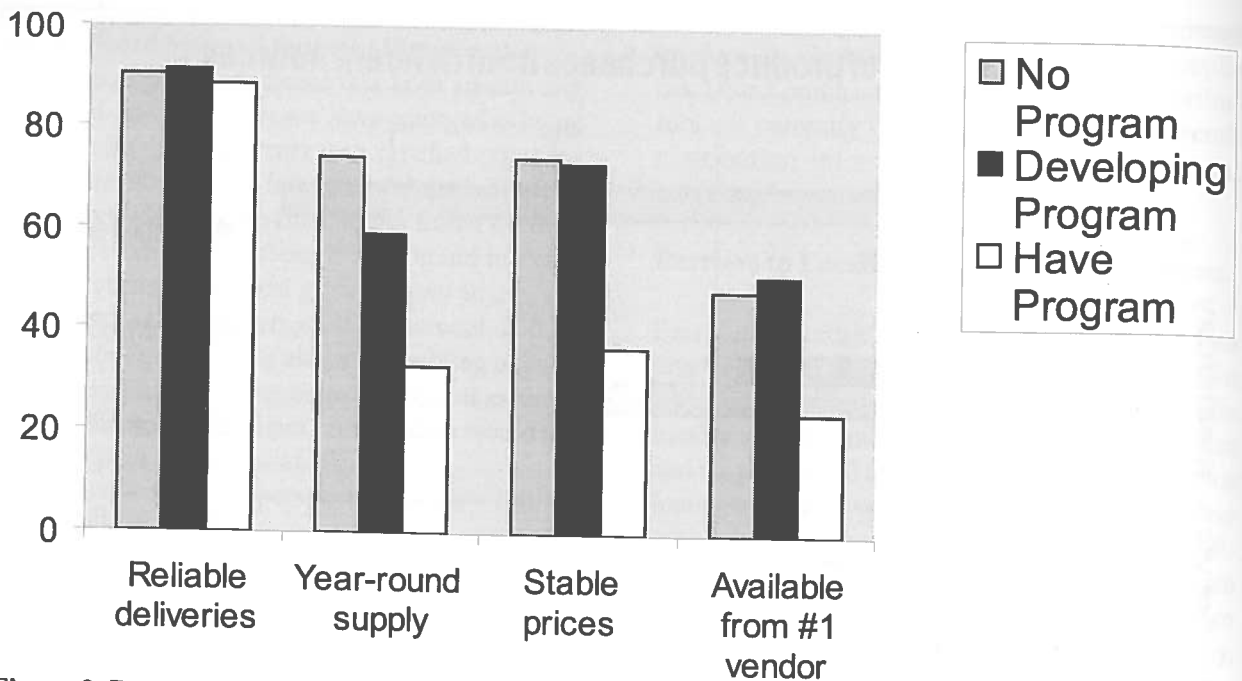


Figure 2. Percentage Rating Criterion as Very/Extremely Important for Local Produce Supplier.

changes include creating connections and business strategies that shift the distribution infrastructure toward more source-identified, regional, and sustainable procurement. This involves bringing chefs, food service buyers, distributors and farmers together—for networking, partnerships, negotiations, and relationship building. Doing so will require a different approach for each scale of distributor.

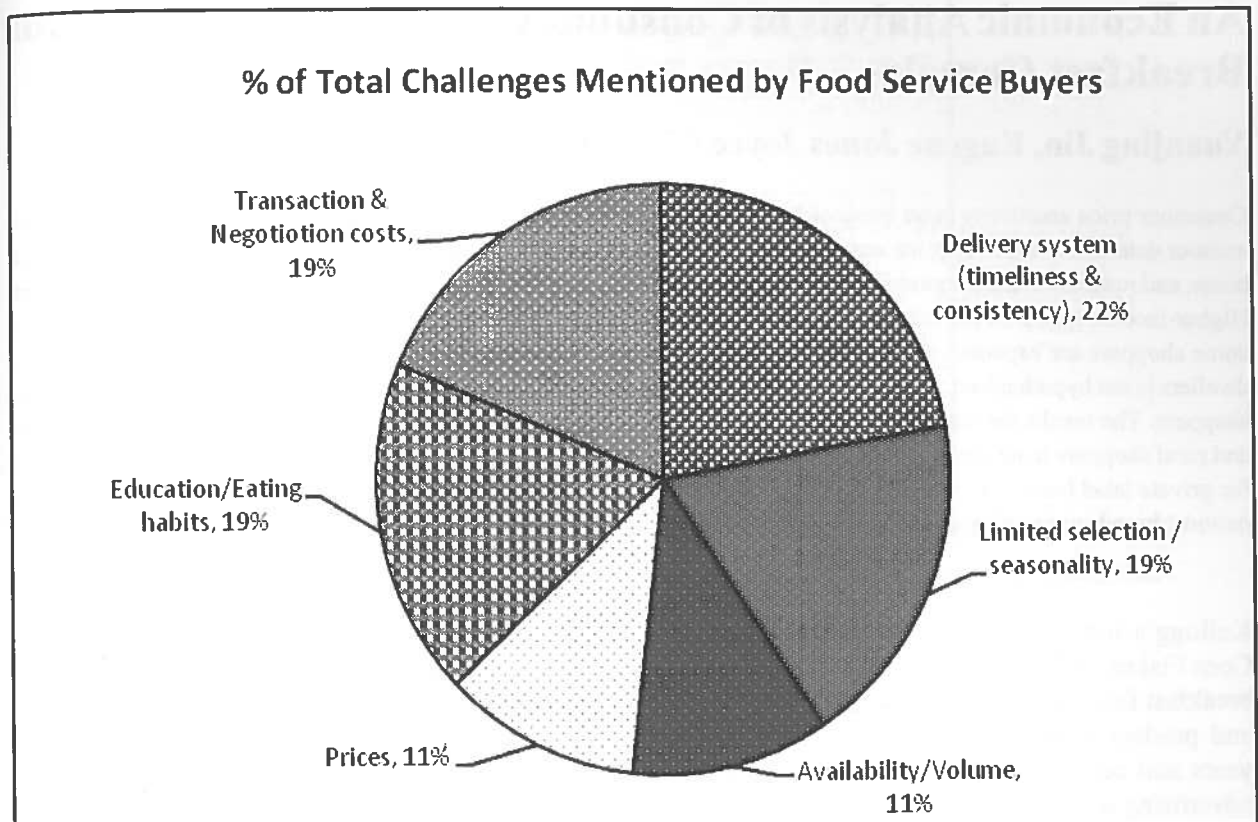
The second major effort needed to tap the potential in the farm-to-college market is education; significant education is needed to increase awareness and demand among buyers and the public about this market. Specific actions include creating more curriculum for the stakeholders involved—students, chefs, food service buyers, and college administrators—around farm-to-college procurement. Journalists also need to be educated about the topic, in order to inform the general public. More intensive education is needed for food service professionals through their own professional organizations, such as the National Association of College and University Food Services and the National Association of College and University Business Officers.

Currently there is considerable potential to

expand the farm-to-college market for small- and mid-scale farmers. However, realizing the potential will require both significant reforms in the food distribution infrastructure and stakeholder education.

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**Figure 3. Percentage of Total Challenges Mentioned by Food Service Buyers.**