

Farm to School: A Market Analysis

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Abstract

This paper explores the potential for the National Farm to School Program to effectively engage with Georgia's public schools in order to reduce local food insecurity and improve the quality of nutrition provided to students. A survey was conducted with the specific goals of assessing: first, the current and future impact Farm to School has and will potentially have on the Georgia economy through schools purchase of local foods; second, the potential market for farmers; third, school administrators willingness to buy local food by Georgia; forth, the level of infrastructure available within schools to prepare fresh, whole foods; and fifth, the perceived opportunities and challenges to buying and preparing local food.

University of Georgia collaborated with the Georgia Department of Education and Georgia Organics to develop a survey that met the objectives as defined above. There were twenty-five questions total and most answers were formatted in a multiple-choice selection with an option to write any additional comments. The survey was distributed by the Department of Education to 158 public schools in Georgia, and collected, a total of 93 responses.

From the data, it was concluded that the willingness to participate exists, as well as the tools necessary for participation. What appears to be missing is the infrastructure that would allow schools to purchase food easily and frequently. Most schools noted that they would be willing to interact with an online platform that would put them in contact with local growers and sellers.

Background and Motivation

Buying locally may not only reduce the number of households facing food insecurity, but may also improve nutrient intake among those below the poverty line. Furthermore, it may increase the overall economic social welfare of the community by encouraging local sales to local producers who will then reinvest income into other local businesses.

Food insecurity is defined as “a household-level economic and social condition of limited access to food” (USDA, 2009).ⁱ The first federal recognition for improvement towards nationwide food security came in 1946 with the National School Lunch Act. Congress appropriated funds at the state-level in order to provide the minimum amount of nutrition to schoolchildren (USDA, 2009).ⁱⁱ The Food Stamp Act of 1964 followed, after years of a similar trial program, and the official purpose as outlined by Congress was to “provide improved levels of nutrition among low-income households” (Gunderson, 2009).ⁱⁱⁱ Later, in 1975, after doctors

and officials realized that this curriculum left many impoverished women and children hungry, the Special Supplemental Food Program for Women, Infants, and Children (WIC) was permanently established to alleviate the special needs of this socioeconomic group. Most recently, in 1992, the WIC Farmer's Market Nutrition Act passed, establishing a program (FMNP) specifically to "provide resources in the form of fresh, nutritious, unprepared foods (fruits and vegetables) from farmers' markets to women, infants, and children" (USDA, 2006).^{iv}

From the first program in 1946 to the latest in 1992, government regulated food assistance has, at its core, worked towards nourishment for those below the poverty line. Several amendments and trends have created varying immediate goals, such as strengthening the integrity of the program to avoid misuse of funds, while the fundamental programs themselves have remained consistent. Nevertheless, gaps remain in the system as 50.2 million people in the United States lived with food insecurity in 2009 (USDA, 2011).^v

In recent years and with the establishment of FMNP, the United States Department of Agriculture (USDA) recognized the importance of providing adequate nutrition for low-income households and not just supplying groceries. Nutritional education for the benefit of the recipient, the farmer, and the community as a whole is one of the goals of the FMNP. In its purpose, the WIC Farmers Market Nutrition Program asserts that nutritional education as one of its primary goals, to "emphasize the relationship of proper nutrition to the total concept of good health, including the importance of consuming fresh fruits and vegetables" (USDA, 2006).^{vi} Inherent in this statement is the goal of alleviating malnutrition related to food insecurity. Currently, forty five states participate in FMNP, and the National Association of State Departments of Agriculture has declared: "FMNP has proven to be a highly cost-effective means to stimulate production of locally grown fresh fruits and vegetables and encourage the growth of farmers' markets. These farmers' markets provide an important outlet for local farmers while enhancing communities and providing consumers a wider variety of choices and greater access to local farm production" (NASDA, 2008).^{vii}

The USDA has recognized that previous programs, such as WIC and SNAP have potentially reduced food insecurity, though they have failed to eliminate it. Programs such as FMNP call attention to a revolutionary approach to alleviating hunger, food insecurity, and the subsequent decline of local communities. Since farmers markets and local buying infrastructures

engage members within the community and encourage producers and consumers to interact directly, they offer a more holistic solution to food insecurity and nutritional well-being.

In recent years, similar programs have taken grassroots approaches to this problem, slowly gaining national recognition through their success. The National Farm to School Program has grown from an estimated 6 schools in 2001 to a current estimate of 2,334 programs in operation (National Farm to School Network, 2011). Started as a pilot program in 1996, Farm to School “is broadly defined as a program that connects schools and local farms with the objectives of serving healthy meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition education opportunities, and supporting local and regional farmers” (National Farm to School Network, 2011).^{viii} Reaching beyond dietary supplement, the Farm to School Program aims to educate children by engaging them within their food system. Likewise, it reaches beyond the health of the individual and undertakes an improvement on the community, farms, the environment, and the local economy as a whole.

Similarly, the number of farmers markets has increased nationwide, while the direct consumer-to-farm revenue generation has likewise grown. As the infrastructure for local buying improves, production has responded with an increase in supply. The number of farmers markets grew from 1,755 to 2,756 between 1994 to 1998 and nearly doubled from this amount to 5,274 in 2009. Meanwhile, direct-to-consumer marketing doubled from \$551 million in 1997 to \$1.2 billion in 2007. Direct-to-consumer sales grew from 0.3 percent of total agriculture sales in 1997 to 0.4 percent in 2007; excluding non-edible products, direct-to-consumer sales in 2007 accounted for 0.8 percent of total agricultural sales (Martinez, Hand, and DaPra, 2010).^{ix} Not only do these sales benefit the consumers to which they were made, they also reflect an economic improvement in the local farming community.

Similarly, the rate at which local buyers participate within Community Supported Agriculture (CSA's) has accelerated in the past ten years, according to the USDA's Economic Research Service (ERS). Community Supported Agriculture Community-supported agriculture “is a marketing approach whereby the farmer sells shares in the future crop of the farm to local consumers, providing the small farmer with a prepaid market, market stability, and cash-flow” (Steele, 1997).^x As observed by the USDA, “In 2005, there were 1,144 community-supported agriculture organizations in operation, up from 400 in 2001 and 2 in 1986, according to a study by the nonprofit, nongovernmental organization National Center for Appropriate Technology. In

early 2010, estimates exceeded 1,400 [community supported agricultural organizations], but the number could be much larger” (Martinez, Hand, and DaPra, 2010).^{xi} With funds for purchase coming from FMNP and education about food production increasing, these numbers are projected to continue to rise, improving local economies and closing the gap between the food secure and the food insecure households.

Though local food buying has gained momentum, few feasibility studies have been conducted to explore how FMNP, CSA’s, and Farm to School can affect food insecurity; research is extremely limited. Though slow to gain credence initially, the local food movement is slowly becoming recognized as public and private agencies identify the potential for improved food security through local buying in addition to the economic sustainability of small farmers and local communities. However, most studies are simply willing to recognize that local food buying has potential without providing clear evidence as to how these practices have changed the landscape. This idea is too young to assert results. According to Martinez, Hand, and DaPra, the potential for local buying as a solution to food insecurity is tangible given the new infrastructure for buying. However, they note, “no study has attempted to demonstrate a clear relationship between [economic conditions, income, and poverty status], observed food security, and local food characteristics” (2010).

Studies have also demonstrated how local buying affects small farmers and local communities. Direct-to-consumer practices, such as participation in CSA’s and farmers’ markets, account for a larger share of sales for small farms than for medium to large sized farms, which are defined as having total farm sales greater than \$50,000 and \$500,000 respectively. In 2007, “produce farms engaged in local marketing made 56 percent of total agricultural direct sales to consumers, while accounting for 26 percent of all farms engaged in direct-to-consumer marketing” (Martinez, Hand, and DaPra, 2010).^{xii}

Though 2010 saw only a few studies on how the impact of local buying affects local economies, the USDA published a report concluding, “empirical research has found that expanding local food systems in a community can increase employment and income in that community” (Martinez, Hand, and DaPra, 2010).^{xiii} Small farm operators, defined as having sales less than \$20,000, are vital to the local economy, as they own 29 percent of the agricultural land held by farmers.^{xiv} Other contributions to the local economy are cited as direct sales from investment in farm machinery and other capital inputs, production of several staple commodities

such as hay and tobacco, job creation due to direct labor as well as marketing activities, and tax contribution, which accounted for 18 percent of farm debt in 1994 and 24 percent of real estate and property tax within the farm sector (Steele, 1997).^{xv}

King and Hand (2010) found that farmers with direct sales retain a higher percentage of the total value sold at the market. Since they do the majority of the food-to-market processes without outsourcing to a third party, they retain higher revenues on a per-unit basis. In other words, “these producers consistently retain a large percent of the retail value of their products, even after estimated marketing and processing costs are netted out.” Additionally, while direct to market vendors charge an absolute higher price than mainstream vendors, those participating in farmers markets and CSA’s have the ability to keep “essentially all revenue in the direct market chain [...] retained in the local economy.”

While evidence regarding the National Farm to School Program is limited, there are some broad studies that suggest it may help mitigate increasing fuel costs and increase nutritional intake among children. The National Farm to School Network “in 2009 estimated that 41 states had some kind of farm to school program, and 8,943 schools in 2,065 districts participated.” The goal of this program is to strengthen the relationships between schools and farms over time, with the idea that students will be more inclined to eat food that they have seen growing in their own gardens or in fields nearby (Martinez and Hand, 2010). This may increase nutritional intake and encourage children who may not otherwise have exposure to fresh fruits and vegetable to eat healthier. This has been cited as a reason for further developing farm to school programs (Vogt and Kaiser, 2008).

In the past ten years, research has increased to evaluate the derivatives of the local buying movement; however, as mentioned previously, there has been limited analysis of the effect direct sales have on food insecurity. This may be the case because data for direct-market sale indicators is limited.

Methodology

University of Georgia collaborated with the Georgia Department of Education and Georgia Organics to develop a survey that met the following objectives: first, evaluate the current and future impact Farm to School has and will potentially have on the Georgia economy through schools purchase of local foods; second, measure the potential market for farmers; third, gauge school administrators willingness to buy local food by Georgia; forth, determine the level

of infrastructure available within schools to prepare fresh, whole foods; and fifth, assess the perceived opportunities and challenges to buying and preparing local food.

The survey consisted of twenty-five questions that aimed to assess the quantity of produce a school might demand as well as the school's willingness to participate. Simultaneously, determining reasons against participation and barriers to entry are informative to the process of setting up infrastructure for buying by understanding what problems may have arisen in the past. For instance, a few questions addressed the current total use by public schools of fresh, frozen, and canned food. Though fresh food is the easiest for the farmer to sell, it may take time and preparation by the school in order to have it served. Therefore, it is important to know how receptive schools are to buying food in its raw state. Furthermore, schools were asked if they have tried to buy locally in the past and, if so, what were their efforts. If schools had issues with this, they could then comment in order to illustrate what problems or frustrations may have arisen during this process. Farm to School was specifically defined within the survey and participants were asked a series of questions that identified the potential barriers to entry for the program, as well as the reasons people were encouraged to engage with local buying. In order to establish what kind of market exists within Georgia, it is important to understand why people are buying and what motivates them to continue to participate in a program like Farm to School.

Most answers were formatted in a multiple-choice selection with an option to write any additional comments additionally. The survey was distributed by the Department of Education to 158 public schools in Georgia and collected, at its height, 93 responses. A participation incentive was provided with the potential to win a knife set in a raffle.

Data

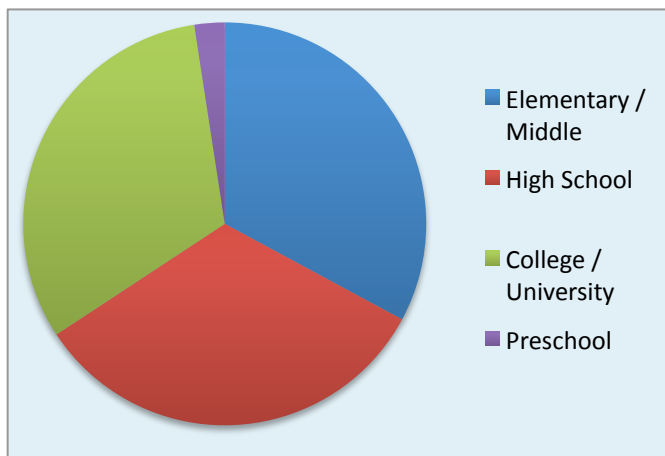
This survey was conducted using the website www.surveymonkey.com. The survey ran from February 2011 until July 2011, when it was officially closed. At that time, data results were assimilated and emailed in an Excel format using the software provided by the website.

From the responses received, there were a few questions that were answered multiple times by the same respondent. The responses were reviewed in detail and, if more than one response was given, the most recent response was accepted as the true answer.

Of the 93 respondents who identified themselves, most listed their title as one of the following: School Nutrition Director, Student Nutrition Program Supervisor, Director, Manager, Child Nutrition Director, Food Service Director, System Manager, Director of School Nutrition and Wellness, and Food Service Supervisor. In other words, respondents were mainly those who oversee food buying and or administration, and have a firm handle on how the district deals with distributors and buyers.

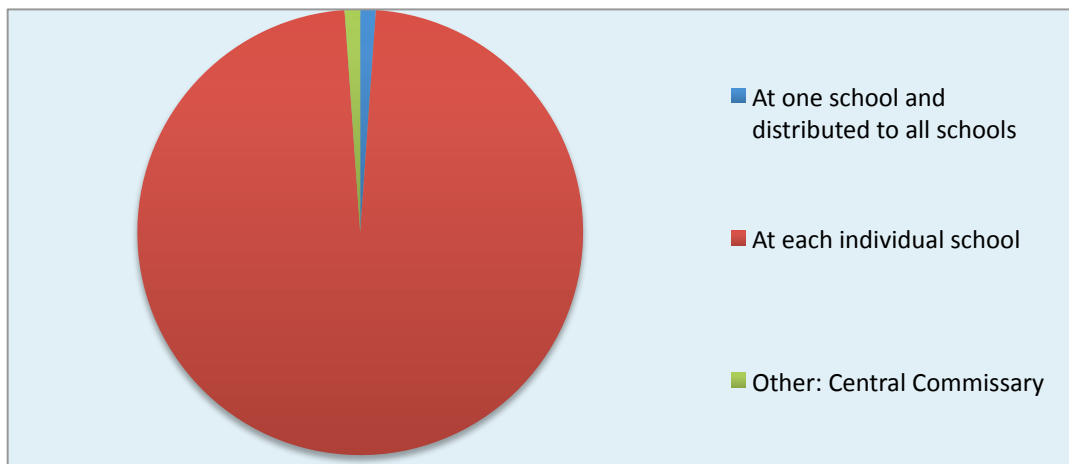
Results

Question # 3: What is the age group of the children attending this school or the schools in your district? (Please select all that apply).

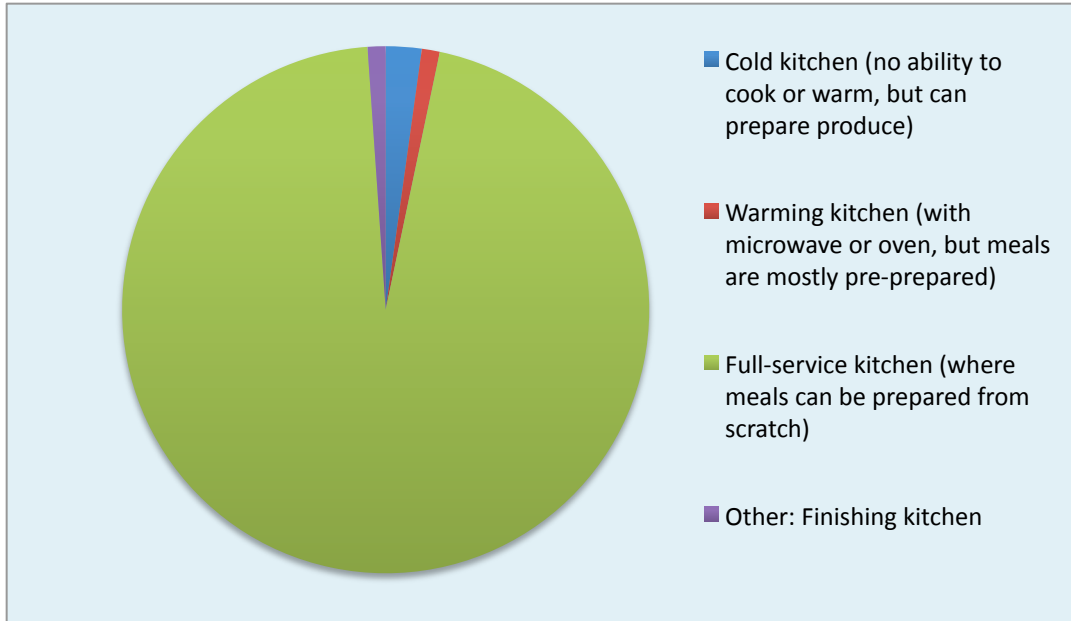


Elementary	95
Middle School	95
High School	92
Preschool	7

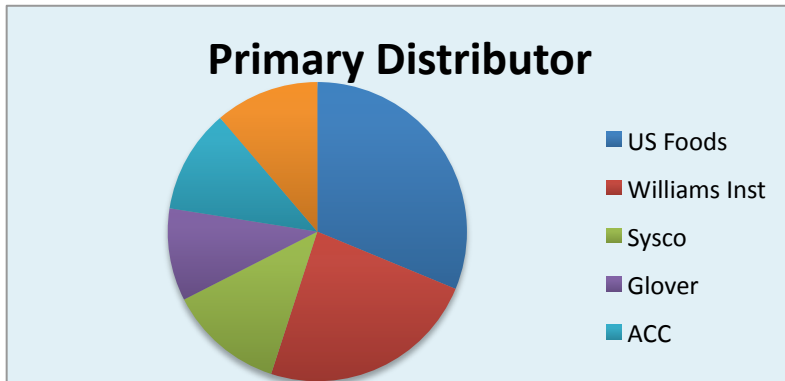
Question #5: Where are the majority of the meals prepared? (Please check one)



Question #6: Which of the following typifies the kitchens in the district or at the school you represent?



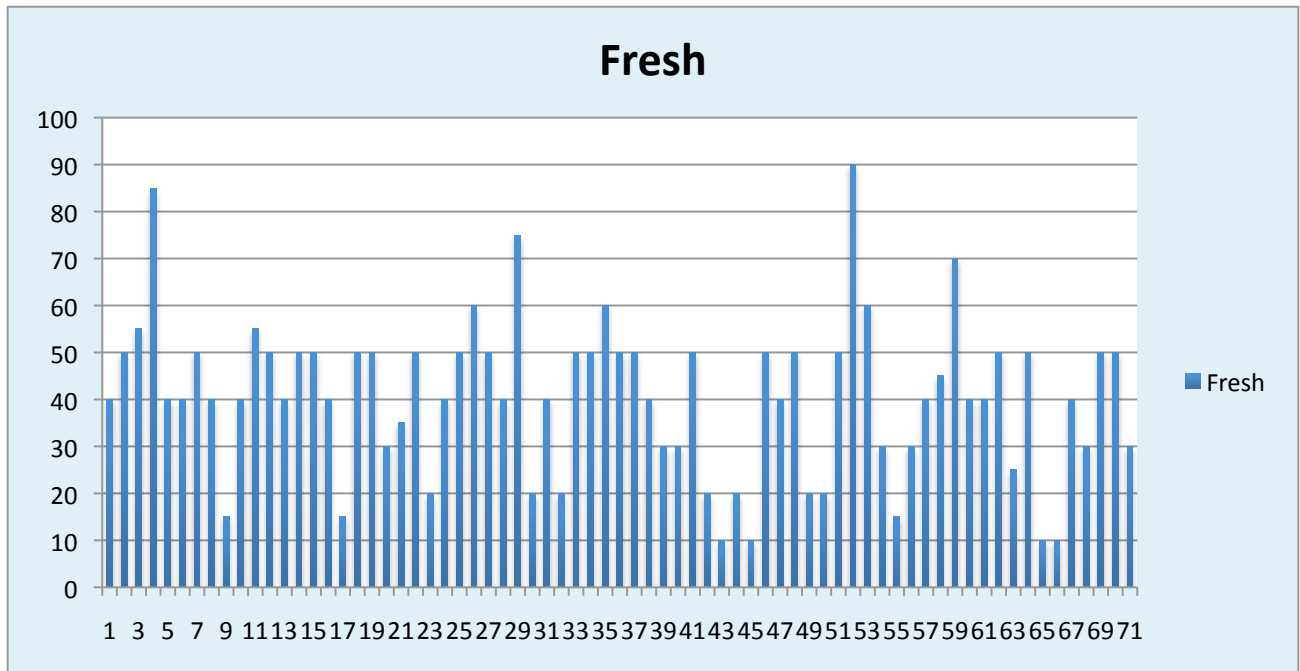
Question #7: From which food distributors does your school or district purchase food? (Please list distributors.)



Question #8: How does your institution determine who provides food to your school or district? (Please check one.)

Bid	79
Contract	0
Other: RTF (Request for Tender)	1

Question #11: Generally speaking, of the produce your institution currently buys, what percentage is fresh, canned, frozen or other? (Total must = 100%)



Question #13: Has your institution made any efforts to purchase local farm products for your school?

Yes	No
54	21

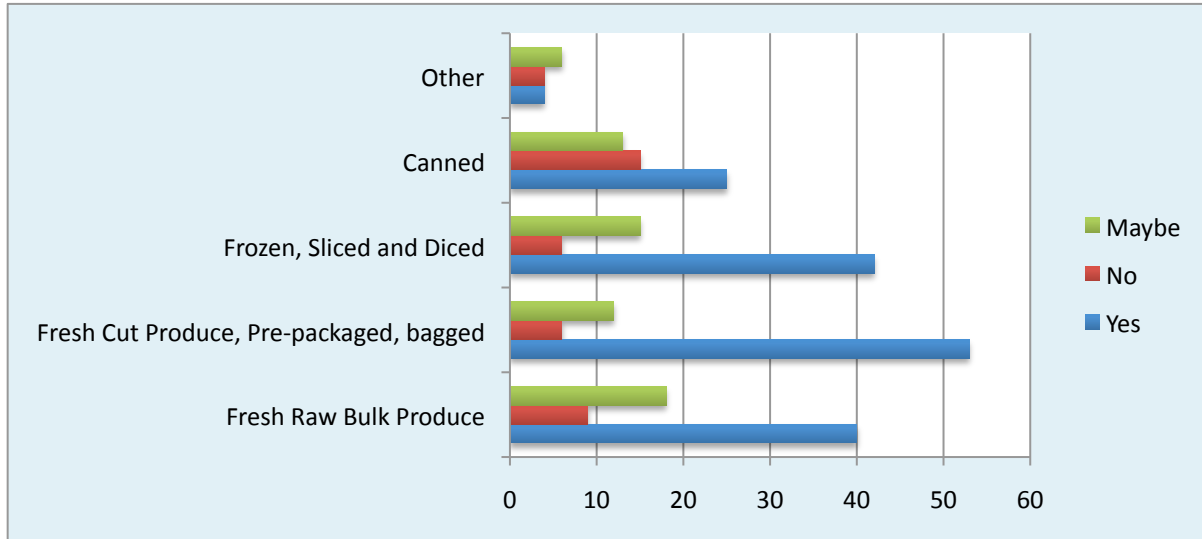
Question #14: Is your institution currently engaged in a farm to school program?

Yes	No
18	57

Question #15: Based on the broad concept as defined, would your institution be interested in participating in a farm to school program?

Yes	No
43	5

Question #16: Would your institution be interested in talking with local growers about purchasing fresh and frozen produce? If so, please indicate the form in which you would be interested. Please check all that apply.



Question # 17: If your institution is interested, would it prefer to work with individual growers or a group of growers (cooperative)?

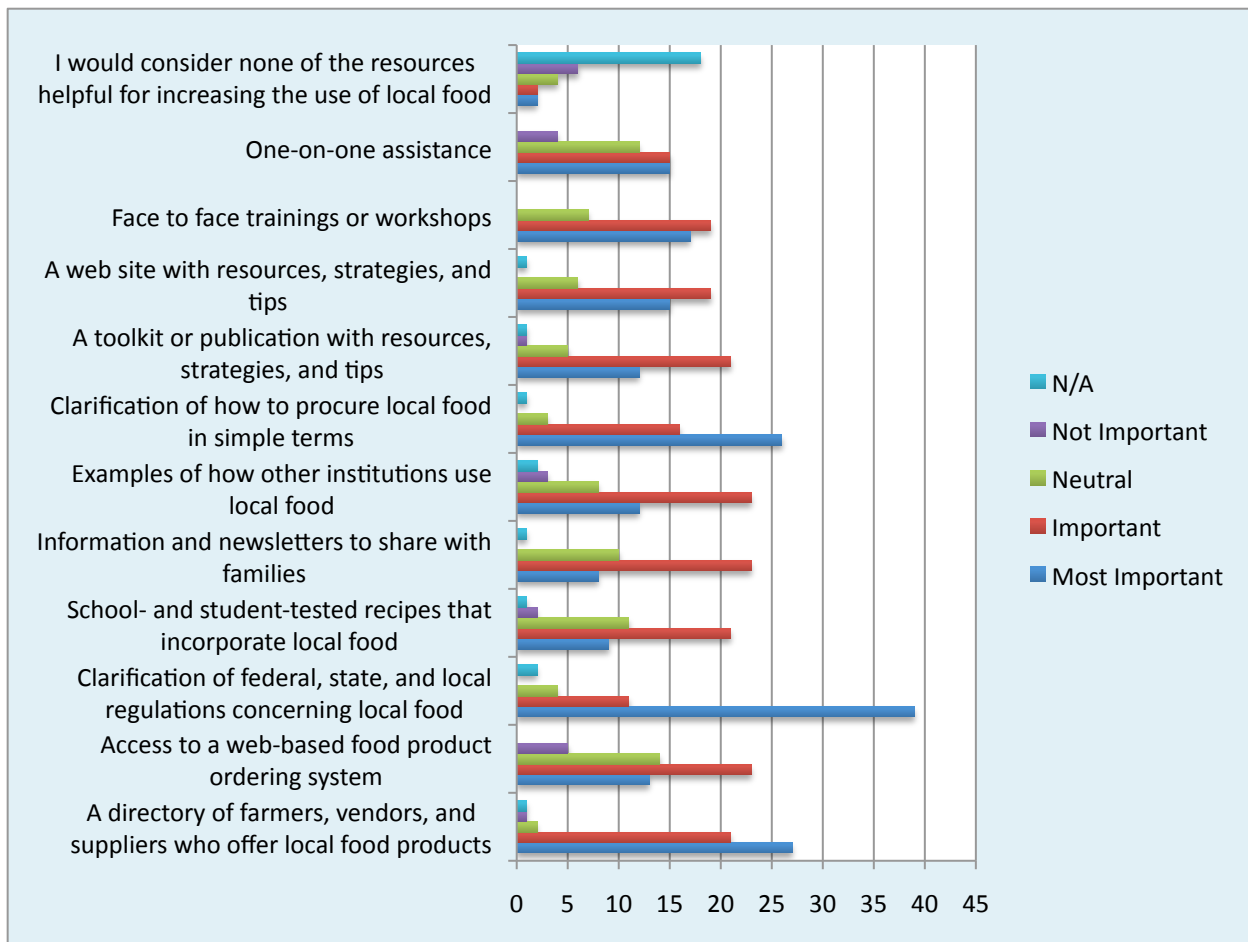
		No	
Individual	Co-Op	Distributor	Preference
16	21	15	33

Question #18: Would your institution be willing to use an online platform (Internet-based) in order to:

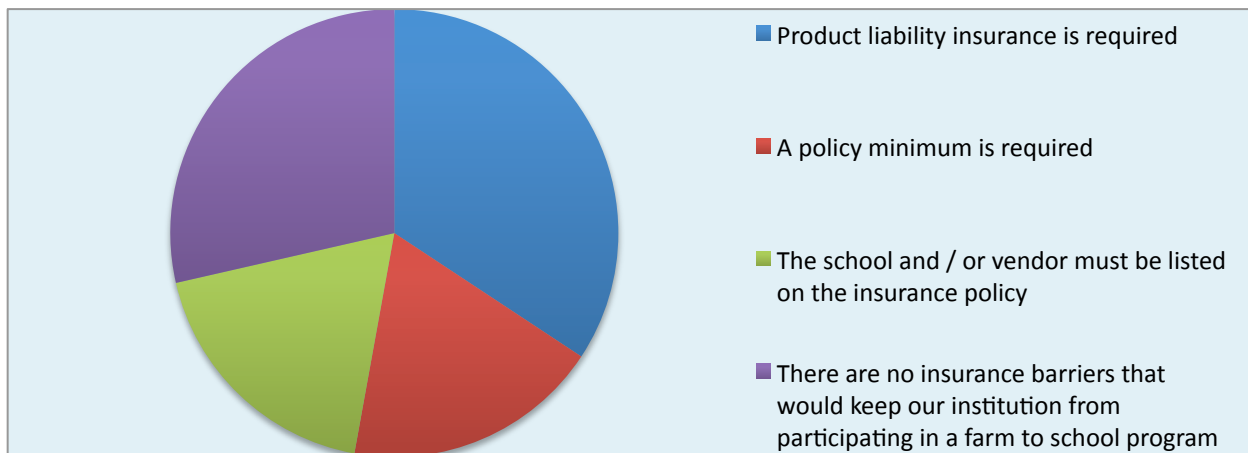
	Yes	No	Maybe
Identify Local Producers	49	6	17
Communicate with Local Producers	47	7	15
Order Fruits, Vegetables, or Other Local Products On-line	45	7	15

*It is important to note that six of the seven people who responded 'No' did so across the board.

Question #19: Would your institution consider any of the following resources helpful for increasing the use of local food in your school or district?

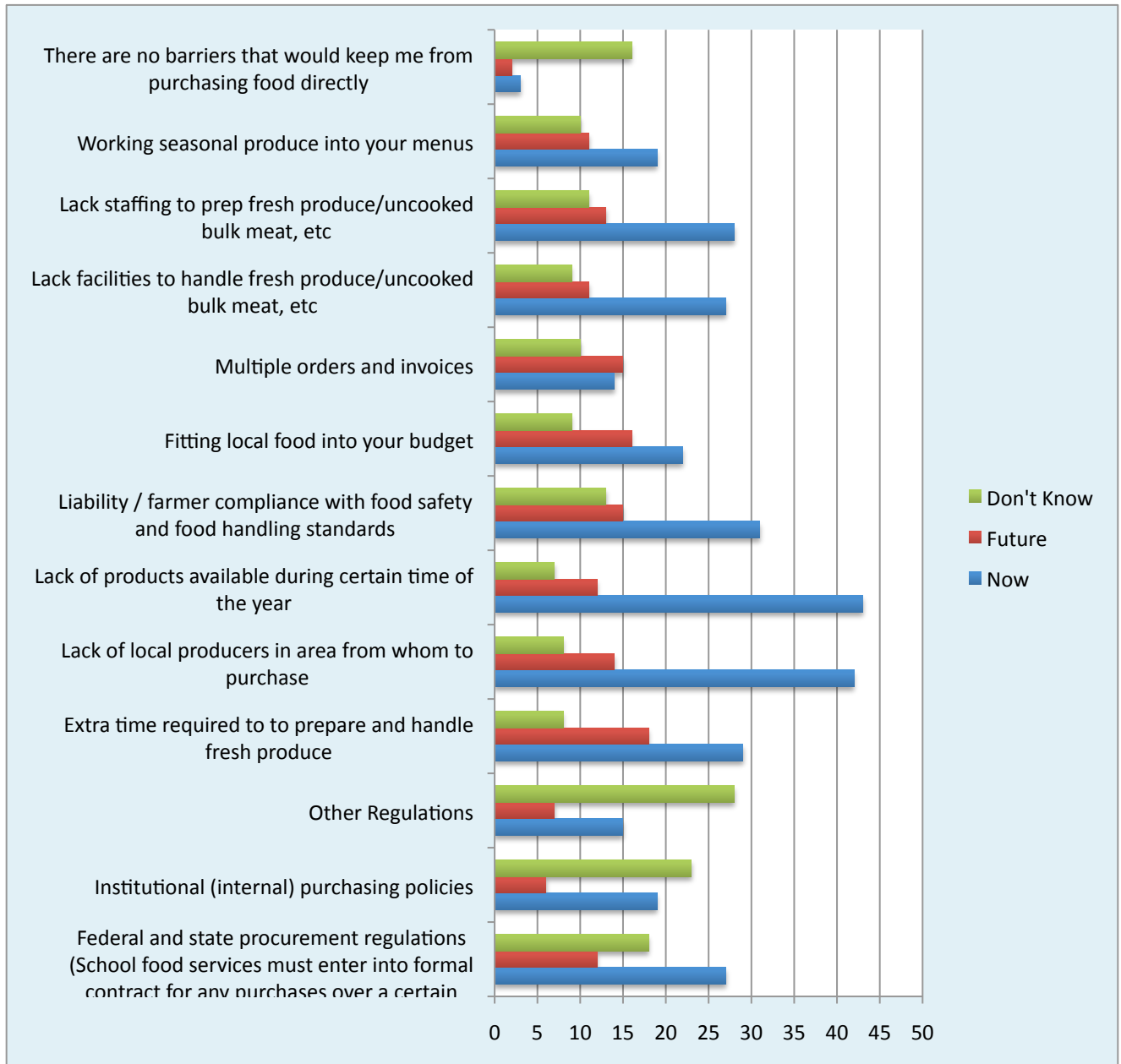


Question #20: What insurance barriers, if any, might keep your institution from participating in a farm to school program?



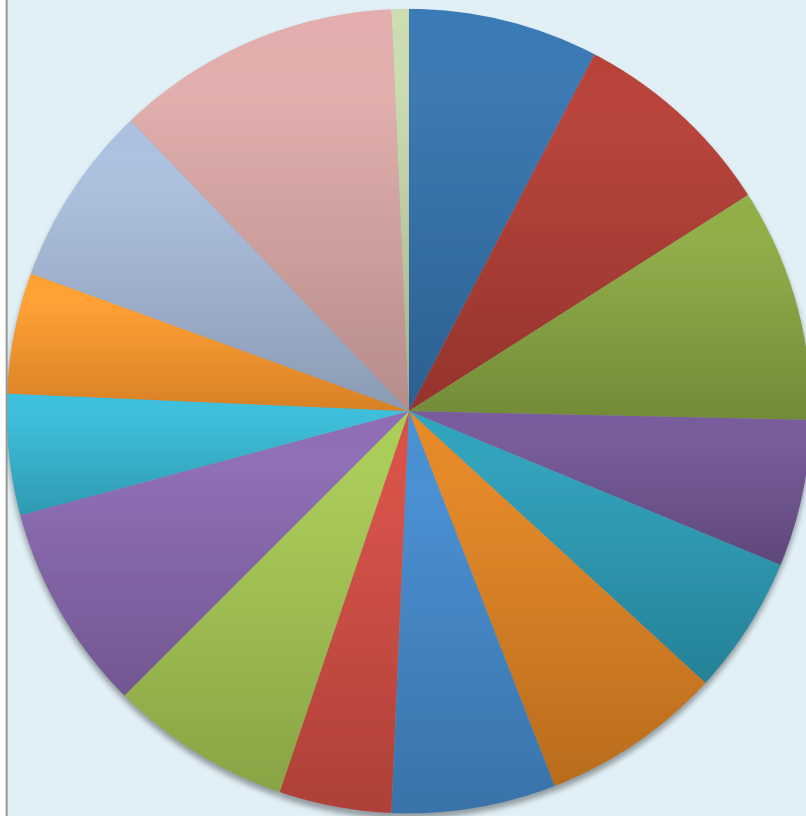
Total Responses: 58

Question #21: Would any of the following describe an obstacle for your school or district in purchasing foods directly from local producers? Indicate whether you are currently experiencing such an obstacle or whether you might anticipate to in the future. (Please check all that apply.)



Question #22: In the opinion of your institution, what are the potential benefits of serving local food in your school or district? (Please check all that apply.)

Most Important



- Children and adults gain greater access to fresh fruits and vegetables
- Children and adults have healthier diets
- Local education agencies support the local economy, local farmers, and the local community
- Local education agencies know the source of products
- Lower transportation costs
- Local purchases result in good public relations
- Local education agencies can increase participation rates and revenue generated by featuring local food
- Special or unique varieties can be purchased and served
- Produce is picked just in time/seasonally
- Better flavor
- Increased shelf life
- Decreased environmental impact
- Better control over food safety
- Would help Georgia farmers and/or Georgia businesses
- There are no benefits to serving local food

Discussion of Results

It is first important to note that, from the results presented, most of the schools remark that they have a full-service kitchen at each individual school. In other words, in each school or district, the infrastructure exists to have meals prepared from scratch. This also corresponds to the numbers that show that the majority of the schools' purchased produce is fresh, instead of canned or frozen. In other words, the majority of Georgia schools are already set up to accommodate a meal that incorporates raw, fresh produce in a full-service kitchen.

Furthermore, when asked if school administrators would be willing to talk to local farmers about buying locally, most schools indicated that they would be most interested in discussing the purchase of raw, fresh-cut, and bagged produce, instead of canned or frozen produce. Since raw, fresh-cut, and bagged produce is less labor-intensive for farmers than frozen or canned produce, this could reflect positively on the potential for farms to sell to local schools. Furthermore, since schools report to have the kind of infrastructure to prepare this kind of raw produce in their kitchens, this kind of local buying arrangement may be advantageous for both parties involved.

When asked if schools have already tried to purchase locally, 54 of 75 respondents answered 'yes'. Among the comments provided in this field, 19 of the 54 mentioned that they have purchased strawberries particularly; furthermore, some schools or districts have tried watermelons, squash, beans, peas, kiwis, apples, potatoes, lettuce, collard greens, and other fruits and vegetables within the season. Of these 54 who have purchased locally, a few have said that they get these from their current distributors. Even if US Foods or Sysco is a school or district's primary distributor, secondary distributors, including Carolina Produce and Royal Produce have provided local produce to schools that demand this kind of purchasing. In other words, there appears to be a great deal of initiative by a few schools and districts, which hope to support the local economy and buy within the season. In fact, among the responses that address motives for buying locally, the greatest number of responses listed under 'most important' favor the motive: 'Local education agencies support the local economy, local farmers, and the local community.' In other words, the main reason why school administrators have considered buying from local farmers is because they primarily hope to support the local economy. This point is further

supported by the second most popular motive in the ‘most important’ category: local buying ‘Would help Georgia farmers and / or Georgia businesses.’

Schools that answered the question regarding obstacles to buying locally felt that there is a lack of local food supply within the school or district’s region. In fact, administrators commented that, if they had tried to purchase locally and had failed it was because ‘none were available in the immediate area.’ Though this may be a challenge in some areas, buying locally is realistic at least within the southeastern region, if not within the state of Georgia. Therefore, it would appear that these barriers to buying locally are then perceived and it may take an improvement in the buying infrastructure to encourage some districts to purchase locally. In other words, it may take additional work by the school or district’s staff to seek out farms that are willing to sell up to the administrator’s needs and standards. If this process were made more seamless, for example with an internet purchasing platform, then more schools may support local economies by buying from local farms.

Conclusions

From the survey results, it appears that most Georgia school administrators support the idea of a Farm to School program in their district. However, the perceived barriers to buying locally are primarily the lack of supply. Since this is not the case, it may be that distribution and purchasing infrastructure need to be modified to ease the process of buying locally. While this is an undertaking, it may be a process that evolves as the motives for participating in programs like Farm to School become broader and more concrete. In other words, as motivation for local buying increases, school administrators may be more motivated to push the system so that it more readily provides local produce. Until then, it is important to recognize that the motivation for local buying exists within Georgia and a market for such trading is present. Absent from the mainstream market is the personnel to improve the system and the infrastructure to ease the process.

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