



**The Use of  
Local Foods in  
Maryland  
Schools:  
Findings from  
a Survey of  
Food Service  
Directors**

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# About the Surveys and Schools

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From 2009 to 2010, a collaboration of researchers and Extension specialists developed a study to examine the supply chain for local foods in Maryland school meals, investigate the barriers and opportunities for increasing local foods in schools, and develop outreach programs to meet the needs identified, with an eye towards improving farmer incomes. Interviews and surveys were administered with stakeholders from the entire supply chain, including farmers, distributors, food service directors, and school principals. This report focuses on the results from the survey of food service directors.

The survey of public and private school K-12 food service directors, which included over 30 questions, was intended to study the following:

- the current use of local foods in public schools;
- the level of stakeholder interest;
- whether schools procured directly from local farmers;
- interest in procuring local foods in the future (as well what types of agricultural products);
- barriers to using local foods in school meals; and
- perceptions about the effectiveness of the Maryland Farm to School legislation, *Jane Lawton Farm to School Act*.

Some basic characteristics of the food service operation were also collected (Table 1). The survey covered the academic year 2008-2009 and some information about the summer of 2009. Local foods, for the purpose of the survey, were defined as those produced in Maryland or the surrounding states.

The school food service survey was developed by the research team made up of members from the University of Maryland, Penn State University, and USDA's Economic Research Service, in consultation with the Maryland State Departments of Agriculture and Education. For public schools, 18 of 24 surveys were received, representing a 75 percent response rate. Of the private schools in the state, we distributed surveys to the population of schools with more than 150 students (approximately 310 schools), including high, middle and elementary schools. The response rate for private schools was 17 percent (51 schools); we assume that a substantial number of private schools not returning the survey did not provide school meals for students.

Public schools, for the most part in Maryland, have centralized kitchen facilities run by the public school system. In the private schools, 60 percent of the food service is operated by a contractor, while 37 percent are self-operated by the school. Seventy-seven percent of these use on-site kitchens at the school, while 17 percent of the schools have their meals prepared at a satellite or contract kitchens. The enrollment for the schools is varied because the private school numbers most often cover one or two schools, whereas those for the public school are county wide, covering many schools, and the food service departments provide meals to all the schools.

**Table 1. Descriptive Characteristics of Respondent Schools and Meals Served**

Aspect	Public Schools (n=18)	Private Schools (n=43)
	<i>--Mean--</i>	
<b>Enrollment</b>	30,850 (range 2,219-139,282)	420 (range of 78-1,400)
<b>Daily breakfast served</b>	4,977	25
<b>Daily lunch served</b>	14,146	239
<b>Daily snacks served</b>	723	93
<b>Summer meals total served</b>	33,905 (range 0-288,911)	1,026 (range 0-40,000)

# Questions & Responses: Purchasing Practices

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1. How well trained/equipped would you consider your staff and facilities to prepare fresh fruits and vegetables, e.g., whole carrots that have not been further processed or cut (Table 2)?

**Table 2. Capacity of Food Service (Training/Equipment) to Prepare Fresh Fruits and Vegetables**

	Public Schools			Private School		
	--Percent--					
	Very	Moderate	Lacking	Very	Moderate	Lacking
Staff	56	39	6	76	19	5
Preparation Space	50	39	11	64	36	0
Equipment (knives, food, processors)	39	33	28	60	30	11
Refrigerator storage space	28	67	6	68	30	3

2. Approximately how many vendors in the following categories does your food service operation use to purchase fresh produce (Table 3)?

**Table 3. Vendor Use by School Food Service**

Aspect	Public Schools	Private Schools
	--Mean--	
Distributors or wholesalers	6.8	1.5
Individual farmers	1	.6
Farmers cooperatives/associations	0	.3

3. Do you purchase more than 50 percent of all your fresh fruits and vegetables from just one vendor (Table 4)?

4. Does your primary vendor offer locally grown products (Table 4)?

5. Have you asked any of your vendors to carry local foods (Table 4)?

6. Do you participate in the Department of Defense Fresh Fruit and Vegetable Program (Table 4)?

Table 4. Vendor Relationship		
Aspect	Public Schools	Private Schools
	--Percent--	
Purchases > 50% of fresh fruits and veg from one vendor	89	71
Primary vendor offers locally grown products	77	43
Asked vendor to carry local foods	53	34
Participate in DOD Fresh Fruit and Vegetable Program	61	NA

7. Provide name of vendor if you purchase more than 50 percent of all your fresh fruits and vegetables from just one vendor (Table 5).

Table 5. Name of Vendor
<b>Public Schools:</b> PFG Carroll County Foods (4 responses); Keany Produce (3); Dept of Defense (2); Lankford Sysco (2); Eastern Maryland Sysco (1); Lancaster Foods (1); Produce Source (1); Greensburg Farm (1); Farmers Market (1).
<b>Private Schools:</b> Keany Produce (6) Hearn Kirkwood (4); Sysco (3); Costco (3); Sam’s Club (3); U.S. Foodservice (2); PFG Carroll County Foods (1); La Prima Food Group (1); Capital Seafood (1); Vignola’s Gourmet (1).

**8. What were the top 3 fresh fruits and vegetables (by volume) purchased by your food service operation last year, 2008-09 (Table 6)?**

**Table 6. Top 3 Fresh Fruits and Vegetables**

**Public schools fresh fruits** (frequency of times mentioned in top 3): Apples (18 responses); oranges (or tangerines) (16); bananas (7); grapes (5); pears (3); strawberries (2); peaches (1).

**Public schools vegetables:** Carrots (sticks/baby) (16 responses); lettuce/salad mix (15); tomatoes (8); celery (6); broccoli (4); corn/collards/sweet potato or potato (all mentioned once).

**Private schools fresh fruits:** Apples (33 responses); oranges (or tangerines) (23); grapes (13); bananas (12); watermelons/melons (6); cantaloupe (5); strawberries (4); pineapples (3); pears (2); berries (1).

**Private schools vegetables:** Lettuce/salad mix (28 responses); carrots (sticks/baby) (19); tomatoes (16); broccoli (8); green beans (6); cucumber (6); onions (3); corn (3); spinach (2); celery (2); peppers (2); peas/potatoes/zucchini/squash (all mentioned once).

# Questions and Responses: Local Foods and Food Service Operations

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9. Please rate the following stakeholders in your school district concerning their interest in serving local foods in school meals (Table 7).

Table 7. Interest from Stakeholders Concerning Local Foods in School Meals				
Stakeholders	Very	Moderately	Somewhat	Not at all
	<i>--Percent interested--</i>			
<b>PUBLIC SCHOOLS</b>				
Your food service operation	59	29	6	6
Parents	24	24	53	0
PTAs	25	25	38	13
Students	12	24	47	17
Principals	19	38	25	19
School Board	50	25	19	6
Superintendent	47	29	24	0
<b>PRIVATE SCHOOLS</b>				
Your food service operation	56	19	19	6
Parents	56	19	19	6
PTAs	Not applicable			
Students	27	24	33	15
Principals	58	19	19	3
School Board	52	23	19	7
Superintendent	Not applicable			

10. Did you purchase any locally grown products during the 2008-2009 school year (Table 8)?

11. When did your food service operation purchase locally grown products during the 2008-09 year (Table 8)?

Table 8. Purchasing Patterns of Local Products		
	Public Schools	Private Schools
	<i>--Percent--</i>	
Schools Purchasing Local Products	94	48
	<i>--Percent of those that purchased local products--</i>	
Purchased Summer 2008	44	39
Purchased Fall 2008	88	94
Purchased Winter 2008-09	38	50
Purchased Spring 2009	63	78

12. Did you purchase any locally grown products directly from a FARMER during the 2008-09 school year (Table 9)?

13. Approximately how many different vendors did you use to buy local foods (Table 9)?

14. Approximately how many different farmers did you buy locally grown products from during the 2008-09 year (Table 9)?

Table 9. Purchasing Local Products from Vendors and Farmers		
	Public Schools	Private Schools
	<i>--Percent--</i>	
Purchased Local Products from a Farmer	35 (n=17)	35 (n=20)
	<i>--Mean--</i>	
Number of Vendors Used to Procure Local Products	1.9	1.7
Number of Farmers Used to Procure Local Products	2.7 (n=6)	2.0 (n=6)



**15. What were the top five products you purchased directly from farmers (Table 10)?**

<b>Table 10. Top Five Products Purchased Directly from Farmers</b>		
	<b>Public Schools</b>	<b>Private Schools</b>
	<i>--Number of Responses--</i>	
Apples	3	5
Pears	3	1
Peaches	3	2
Watermelon	3	1
Sweet Corn	2	2
Tomatoes	1	3
Peppers	0	2
Lettuce	0	2
Berries	0	2
Potatoes	0	2
Cantaloupe	1	1
Cherry/plums/nectarines (each mentioned once by public schools)		
Mushrooms/green beans/yellow squash/ cabbage/beets/ground beef/carrots/zucchini (each mentioned once by private schools)		

**16. How would you rate your overall experience of buying directly from farmers (Table 11)?**

<b>Table 11. Experience of Buying Directly from Farmers</b>		
	<b>Public Schools (n=6)</b>	<b>Private Schools (n=7)</b>
	<i>--Percent--</i>	
Excellent	40	29
Good	60	43
Neutral	0	14
Bad	0	14

# Questions and Responses: Plans for Using Local Foods

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17. Overall, in the future, how interested are you in purchasing locally produced products (Table 12)?

**Table 12. Interest in Purchasing Local Products from a Vendor or Distributor**

	Public Schools	Private Schools
<b>Directly from a Farmer</b>	<i>--Percent--</i>	
Very Interested	50	47
Moderately Interested	31	32
Not at all Interested	19	21
<b>Directly from a Distributor</b>		
Very Interested	82	49
Moderately Interested	12	44
Not at all Interested	12	8

**18. Please tell us your plans for purchasing locally grown fresh fruits, vegetables, and other products over the next 3 years for school meals. (Table 13). [Schools reporting that they would either start purchasing or purchase more/same amount of the product].**

<b>Table 13: Plans for Purchasing Locally Grown Fruits and Vegetables</b>	
<b>Product</b>	<b>Number of Responses</b>
<b>FRUIT</b>	
Apples	42
Melons	38
Peaches	35
Strawberries	33
Watermelon	31
<b>VEGETABLES</b>	
Beans	27
Broccoli	31
Cabbage	19
Carrots	35
Cauliflower	20
Cucumber	34
Lettuce	34
Lettuce Mix	33
Onions	29
Peas	19
Potatoes	27
Pumpkin	12
Spinach	20
Squash	23
Tomatoes	34
<b>OTHER</b>	
Beef	17
Pork	11
Chicken	18
Turkey	15
Milk	30
Cheese	21
Yogurt	21

# Questions and Responses: Challenges to Using Local Foods in School Meals

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19. From your perspective, what are the SUPPLY related barriers that impact your food service operation's ability to increase the use of local foods in school meals (Table 14)?

**Table 14. Rating of Possible Supply Related Barriers by Food Service Directors**

Possible Barriers	Major barrier	Moderate barrier	Not a barrier
	<i>--Percent--</i>		
<b>PUBLIC SCHOOL</b>			
Seasonal availability	73	20	7
Lack of partially processed product	31	56	13
Product shelf life/appearance	19	63	19
Consistent product quality	25	56	19
Lack of local supply/producers	50	13	38
Developing farmer relationships	20	40	40
Pricing of local foods	18	41	41
Distributor doesn't offer local	13	44	44
<b>PRIVATE SCHOOLS</b>			
Pricing of local foods	32	47	21
Developing farmer relationships	25	50	25
Lack of local supply/producers	23	52	26
Seasonal availability	36	36	28
Product shelf life/appearance	24	39	36
Distributor doesn't offer local	36	25	39
Lack of partially processed product	20	40	40
Consistent product quality	18	39	42

20. From your perspective, what are the BUSINESS related and other barriers that impact your food service operation’s ability to increase the use of local foods in school meals (Table 15)?

**Table 15. Rating of Possible Business Related Barriers by Food Service Directors**

Possible Barriers	Major barrier	Moderate barrier	Not a barrier
	<i>--percent--</i>		
<b>PUBLIC SCHOOLS</b>			
Extra staff needed	38	31	31
Delivery considerations	35	29	35
Liability	29	35	35
Lack of info-availability	7	50	43
Menu planning	0	50	50
Lack of facilities	6	38	57
Multiple orders/invoices	6	35	59
Internal purchasing policy	19	19	63
Prime vendor consideration	6	29	75
Student acceptance	6	29	65
Payment arrangements	6	24	71
Lack of prep training	0	19	81
Interest/school admin	0	6	94
Interest/school families	0	0	100
<b>PRIVATE SCHOOLS</b>			
Liability	30	46	24
Delivery considerations	31	44	25
Lack of info-availability	47	20	33
Payment arrangements	29	29	43
Extra staff needed	26	31	43
Menu planning	17	40	43
Internal purchasing policy	25	28	47
Prime vendor consideration	24	29	47
Student acceptance	6	46	49
Multiple orders/invoices	27	24	50
Lack of prep training	3	38	59
Lack of facilities	17	23	60
Interest/school families	6	27	67
Interest/school admin	3	22	75

**21. Index of SUPPLY related and BUSINESS related factors (Major Barrier = 1, Moderate Barrier = .5, and Not a Barrier = 0) (Table 16).**

**Table 16. Index Rankings of Supply Related and Business Related Barriers for both Public and Private Schools**

Possible Barriers	Index Ranking
Seasonal availability	31.0
Delivery considerations	25.5
Pricing	25.5
Liability (farmer compliance with food safety standards)	25.0
Lack of local supply	24.0
Extra staff time needed to prepare fresh food	22.5
Lack of partially processed products	22.5
Product quality	22.5
Developing relationships with farmers	22.0
Consistent product quality	21.0
Lack of information about where/when local foods are available	20.5

**22. What equipment, staffing, and other resources would your operation need to make purchasing and serving local products easier (Table 17)?**

<b>Table 17. Equipment, Staffing, and Other Resources Needed to Make Purchasing of Locally Grown Foods Easier</b>		
	<b># times mentioned</b>	
	<b>Public</b>	<b>Private</b>
Additional refrigeration	9	9
Additional staff	3	5
Storage space	2	5
Training	2	5
Better/more equipment		4
More prep area and sinks	2	1
Additional food processors at school sites	1	1
Small wares/knives at school sites	1	1
Promotions to parents, students and teachers	1	
Central kitchen	1	
Quality assurance on the part of farmers	1	
Farmer needs to be an approved vendor		2
Additional facility space		1

**23. Please tell us what type of information you would find helpful in making locally grown food purchasing decisions (Table 18)?**

<b>Table 18. Information Helpful to Making Locally Grown Food Purchasing Decisions</b>		
	<b># times mentioned</b>	
	<b>Public</b>	<b>Private</b>
Access/information on farmers wanting to sell to schools	4	8
Information on products available	3	9
Competitive price /information on pricing	3	3
List of approved suppliers or suppliers providing local foods	2	18
How other schools are sourcing products		4
Insurance/liability/legal concerns	2	2
Agent capable of bringing both sides together	2	1
Seasonality is issue/year round availability	2	
Packing is issue	1	
Techniques for preparation		1
Information through vendor about sustainable practices		1

# Questions and Responses: Effectiveness of Jane Lawton Farm-to-School Program

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**24. Have you heard of the Jane Lawton Farm-to-School<sup>1</sup> (Home Grown Week) program? If so, how effective do you feel the Jane Lawton Farm-to-School (Home School Lunch) program has been at (Table 19):**

All public school food service directors had heard about the Jane Lawton Farm-to-School program, while only 10 percent of private school food service respondents had. Only public school responses are included below.

<b>Aspects</b>	<b>Very</b>	<b>Moderately</b>	<b>Somewhat</b>	<b>Not at all/ no change</b>
<b>Educating students</b>	0	29	47	24
<b>Linking food service directors/farmers</b>	0	29	41	29
<b>Increasing student interest</b>	0	31	38	31
<b>Increasing public's awareness</b>	0	35	53	12
<b>Increasing amount of local foods in meals</b>	0	41	47	12
<b>Developing networks/communication for food service directors</b>	12	35	41	12
<b>Educating food service directors</b>	35	12	35	18

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<sup>1</sup> In Maryland, the Jane Lawton Farm to School Act was established in 2008 to promote the sale of farm products grown in the state to schools, including creating a promotional event "Maryland Homegrown School Lunch Week." The Act was also meant to provide educational experiences for students related to Farm to School.



# About the Research Team

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