

Research & Policy Brief Series

The Economic Implications of Using New York State Farm Products in School Lunches

By **Brad Rickard**, **Todd Schmit**, and **Pam Shapiro**, Cornell University

What is the Issue?

A significant amount of food is sourced for school lunches in New York State (NYS), which is procured at a cost of more than \$366 million for 281.6 million school lunches per year. Food service directors currently source food through collective bids and pooling purchases, where they are encouraged to purchase locally-produced foods, but they are not mandated or incentivized to do so. Recently, there has been interest in finding ways to increase the proportion of local food in school lunches, which is expected to increase revenues for local farmers and related businesses. Unfortunately, the directors of school lunch programs face very tight budgets, and many are not able to spend additional money to procure local foods.

One way to encourage food service directors to procure more local foods is to offer reimbursements to compensate for the added costs of purchasing local food ingredients. A group of Cornell University researchers has evaluated the benefits and costs of potential proposals that seek to incentivize local food purchases in NYS school districts. Findings from this research suggest that if NYS lawmakers provide an additional \$0.05-per-lunch subsidy incentive to food service directors that use local fruits or vegetables one day per week (e.g., “Thursday is Eat NY Day”), it would likely have an overall positive economic effect for farmers and local economies in NYS.

The Cost of School Lunch

There are five food components that must be offered to children as part of the school lunch program: protein, whole grains, fruit, vegetables, and dairy. Based on anecdotal information, the total cost of food ingredients to create a school lunch is about \$1.30 to \$1.40 per meal, and the approximate cost shares per component are shown in Table 1. Cost shares depend on the specific food items used, so the shares shown are average values across the various items used in school lunches over the course of the academic year. These cost shares do not include non-ingredient costs needed to provide school lunches, such as labor, materials, and overhead.

Table 1 also shows the total expenditure for school lunches for NYS, and the expenditure needed to procure NYS products once per week for each component. The values shown in the last column represent the maximum amount of new sales that could happen if all food service directors purchased locally produced foods one day per week. In reality, since many food service directors currently purchase some locally produced food (especially for the dairy component), the actual amount of new procurement of NYS-produced foods will be less than that shown in the final column.

The state reimbursement for school lunches in NYS has been flat for several years, at \$0.0599 for lunches that are either free to students or that are fully paid for by students, and \$0.1981 for lunches that are partially paid for by students. Total participation (lunches per year) in school lunch programs in NYS is approximately 281,631,548 lunches per year¹. This implies that total expenditures on school lunch ingredients (the \$1.30 per lunch) is \$366 million, where the non-dairy components are \$309.8 million and the dairy component is \$56.3 million. The reimbursement expenditure by NYS is approximately \$19.6 million per year.

Analysis of Economic Effects

To calculate the additional benefits that would accrue to farms and related businesses in NYS if food service directors purchase local foods one day per week, the researchers focus on fruits and vegetables for three reasons. First, one fruit or vegetable is required to be served with each school lunch. Second, we expect that a significant portion of the dairy component of the lunch is already sourced locally, and providing an incentive to food service directors to procure local dairy products would not likely affect the quantity of local purchases. Third, NYS is a relatively small

¹ The NYS reimbursement rates and participation levels in the three programs are available at the Child Nutrition Knowledge Center website: <http://portal.nysed.gov/portal/page/portal/CNKC/>

Table 1: Expenditures for Food Components in NYS School Lunches

Food component	Cost share (%)	Total current expenditure for NYS	Potential new expenditure for NYS-sourced food if procured once per week
Protein	30	\$109,836,300	\$21,967,260
Whole grain	15	\$54,918,150	\$10,983,630
Fruit	15	\$54,918,150	\$10,983,630
Vegetable	25	\$91,530,250	\$18,306,050
Dairy	15	\$54,918,150	\$10,983,630
Total	100	\$366,121,000	\$73,224,200

producer of protein and whole grain products, and it is not clear if there is enough capacity for food service directors to source these products one day per week.

The benefits to NYS farms and related industries and to employment in NYS are calculated (using the values shown in the final column of Table 1) for vegetables, fruit, and fruit *and* vegetables. We use the program IMPLAN to quantify the direct, indirect, and induced benefits for the new stream of revenue that stems from the additional sales of NYS produce. Here, the term “direct effect” refers to the predicted change in the local economy, the term “indirect effect” refers to the business-to-business transactions required to satisfy the direct effect, and the “induced effect” refers to the local spending on goods and services by people working to satisfy the direct and indirect effects.

If some food service directors are already purchasing some local fruits and vegetables, the new demand for these products will be less than the maximum potential, so we calculate the benefits for five scenarios based on the amount of new demand for local products that is potentially created by the incentive program. The benefits for levels of new demand between 100% and 10% provide a range of the likely effects to NYS farms and supporting industries, and to employment numbers (see Table 2 for the results of the “50% new demand” level).

The contribution of new demand and/or industry offsets by the farm sector is an important distinction in assessing benefits. The level of farm product industry expansion necessary to meet the new demand by schools is relatively low (less than 5% in the highest new demand scenario), therefore we assume that the sales expansion can occur within the relevant industry sector without reducing acreages/sales in other sectors. Second, we assume that the farm-level sales represent new sales to schools with no reallocations from other existing marketing channel sales.

The costs associated with the program include the incentives that NYS pays to food service directors for procuring local food. This analysis does not account for additional charges to the school districts in the cost of local food procurement or preparation. We assume that the incentive is \$0.05 per meal for adding a local fruit or vegetable to the school lunch once per week; the incentive would be \$0.10 per meal if a local fruit *and* vegetable were added to the school lunch. Given that 281.6 million lunches are served per year, and the incentive program would target lunches one day per week (or 20% of all lunches), the cost of the program at \$0.05 per lunch would be \$2.8 million per year.

Results

The key result is the overall Benefit-Cost Ratio (BCR) that highlights the ratio of total benefits to total costs (Table 2). The BCR must be greater than 1 in order for the incentive program to yield net benefits to stakeholders overall in NYS. Benefits are defined as the total contributions to the Gross State Product (Total Value Added) as a result of the increase in new sales to the farm sector, including the increase in employee and proprietor earnings; the increase in corporate profits; payments for rents, royalties, dividends, and capital depreciation; and increases in business taxes paid on production and imports. Since the costs would be funded via households through a tax, we also include a negative household income change equal to the amount of the tax (a reduction in the induced effect).

The analysis finds that the BCRs are higher with local vegetable procurement patterns compared to fruit, and this is due to the greater cost share of the vegetable component. Table 2 shows that the BCRs are 1.89 or greater when 50% or more of the local procurement of food can be considered new demand, and thus these scenarios offer net economic benefits to the NYS economy.

Policy Relevance

Although this hypothetical “Thursday is Eat NY Day” program will cost taxpayers approximately \$2.8 million per year, at the 50% new demand level it could generate up to \$9.2 million in new revenue to producers of vegetables (or \$5.3 million to fruit producers) and to the businesses that support them. It is expected that such an initiative would also generate between 80 and 150 new jobs in NYS due to increased economic activity on farms, input suppliers, and others employed in the food distribution sector. Thus, the potential incentive programs discussed in this brief appear to provide net economic benefits to stakeholders in NYS if they create sufficient “new demand” for the products.

Overall, this research provides a useful framework to consider the benefits and costs associated with programs seeking to incentivize school districts to procure local food. The results should be interpreted as upper bound estimates that encourage further investigation. Further, refining estimates of the new demand and costs resulting from the incentive program—which are likely to vary by region of the state—is crucial in better understanding net economic benefits. That said, the framework is flexible enough such that a wide range of other scenarios could be applied for policy consideration, including alternative structures to finance the incentives and costs of the program.

Table 2: Benefit-Cost Ratios of Increasing Local Fruit and Vegetable Offerings in NYS Schools, by 50% New (Farm-level) Sales

Economic Effect	50% Increase in Local Demand for NYS Products ²		
	Vegetables only	Fruits only	Vegetables <i>and</i> Fruits
Direct Effect (farms)	\$7,661,449	\$4,457,506	\$12,118,954
Indirect Effect	\$708,709	\$516,957	\$1,225,665
Induced Effect	\$ 837,982	\$341,910	\$1,179,891
Total benefits (value added)	\$9,208,139	\$5,316,372	\$14,524,510
Total costs	\$2,816,315	\$2,816,315	\$5,632,630
Benefit-Cost Ratios	3.27	1.89	2.58

² See Table 3 (online at <http://cardi.cals.cornell.edu/publications/research-policy-briefs/economic-implications-using-nys-farm-products-school-lunches>) for range of 10%-100% “increase in local demand” scenarios.

